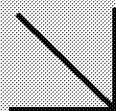




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## Supplemental Report 1

Additional requested analyses are reported as a stand-alone report.

**WORK ORDER NUMBER: 16-08-0626***The difference is service*

AIR | SOIL | WATER | MARINE CHEMISTRY

**Analytical Report For****Client:** Beta Offshore**Client Project Name:** Weekly NPDES Produced Water Monitoring**Attention:** Diana Lang  
111 W. Ocean Blvd., Suite 1240  
Long Beach, CA 90802-4633*Nicole Scott*

Approved for release on 08/23/2016 by:  
Nicole Scott  
Project Manager

ResultLink ▶

Email your PM ▶

Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

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 Work Order Number: 16-08-0626

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**Condition Upon Receipt:**

Samples were received under Chain-of-Custody (COC) on 08/09/16. They were assigned to Work Order 16-08-0626.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

**Holding Times:**

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of  $\leq 15$  minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

**Quality Control:**

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

**Subcontractor Information:**

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

**Additional Comments:**

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.



## Analytical Report

Beta Offshore  
 111 W. Ocean Blvd., Suite 1240  
 Long Beach, CA 90802-4633

Date Received: 08/09/16  
 Work Order: 16-08-0626  
 Preparation: N/A  
 Method: EPA 1664A  
 Units: mg/L

Project: Weekly NPDES Produced Water Monitoring

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
NPDES Prod. Water	16-08-0626-2-A	08/09/16 02:38	Aqueous	N/A	08/22/16	08/22/16 15:10	G0822HEML1
<u>Parameter</u>		<u>Result</u>	<u>RL</u>		<u>DF</u>	<u>Qualifiers</u>	
HEM: Oil and Grease		64200	1000		1.00		
NPDES Prod. Water	16-08-0626-3-A	08/09/16 02:38	Aqueous	N/A	08/22/16	08/22/16 15:10	G0822HEML1
<u>Parameter</u>		<u>Result</u>	<u>RL</u>		<u>DF</u>	<u>Qualifiers</u>	
HEM: Oil and Grease		62300	1000		1.00		
NPDES Prod. Water	16-08-0626-4-A	08/09/16 02:38	Aqueous	N/A	08/22/16	08/22/16 15:10	G0822HEML1
<u>Parameter</u>		<u>Result</u>	<u>RL</u>		<u>DF</u>	<u>Qualifiers</u>	
HEM: Oil and Grease		86000	1000		1.00		
Method Blank	099-05-119-4404	N/A	Aqueous	N/A	08/22/16	08/22/16 15:10	G0822HEML1
<u>Parameter</u>		<u>Result</u>	<u>RL</u>		<u>DF</u>	<u>Qualifiers</u>	
HEM: Oil and Grease		ND	1.0		1.00		

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



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## Quality Control - Spike/Spike Duplicate

Beta Offshore  
111 W. Ocean Blvd., Suite 1240  
Long Beach, CA 90802-4633

Date Received: 08/09/16  
Work Order: 16-08-0626  
Preparation: N/A  
Method: EPA 1664A

Project: Weekly NPDES Produced Water Monitoring

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number					
16-08-0731-1	Sample	Aqueous	N/A	08/22/16	08/22/16 15:10	G0822HEMS1					
16-08-0731-1	Matrix Spike	Aqueous	N/A	08/22/16	08/22/16 15:10	G0822HEMS1					
16-08-0731-1	Matrix Spike Duplicate	Aqueous	N/A	08/22/16	08/22/16 15:10	G0822HEMS1					
Parameter	Sample Conc.	MS Spike	MS Conc.	MS %Rec.	MSD Spike	MSD Conc.	MSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
HEM: Oil and Grease	4.170	40.00	35.77	79	40.00	36.92	82	78-114	3	0-18	

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RPD: Relative Percent Difference. CL: Control Limits

## Quality Control - LCS/LCSD

Beta Offshore  
 111 W. Ocean Blvd., Suite 1240  
 Long Beach, CA 90802-4633

Date Received: 08/09/16  
 Work Order: 16-08-0626  
 Preparation: N/A  
 Method: EPA 1664A

Project: Weekly NPDES Produced Water Monitoring

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Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number				
099-05-119-4404	LCS	Aqueous	N/A	08/22/16	08/22/16 15:10	G0822HEML1				
099-05-119-4404	LCSD	Aqueous	N/A	08/22/16	08/22/16 15:10	G0822HEML1				
Parameter	LCS Spike	LCS Conc.	LCS %Rec.	LCSD Spike	LCSD Conc.	LCSD %Rec.	%Rec. CL	RPD	RPD CL	Qualifiers
HEM: Oil and Grease	40.00	41.00	102	40.00	39.00	98	78-114	5	0-18	

RPD: Relative Percent Difference. CL: Control Limits

## Sample Analysis Summary Report

Work Order: 16-08-0626

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<u>Method</u>	<u>Extraction</u>	<u>Chemist ID</u>	<u>Instrument</u>	<u>Analytical Location</u>
EPA 1664A	N/A	784	N/A	1

Location 1: 7440 Lincoln Way, Garden Grove, CA 92841

## Glossary of Terms and Qualifiers

Work Order: 16-08-0626

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<u>Qualifiers</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
CI	See case narrative.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.
	Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.
	A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.





**SAMPLE RECEIPT CHECKLIST**

COOLER 1 OF 1

CLIENT: LTS ENVIRONMENTAL INC.

DATE: 08 / 9 / 2016

**TEMPERATURE:** (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC2A (CF: 0.0°C); Temperature (w/o CF): 2.4 °C (w/ CF): 2.4 °C; ☒ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: \_\_\_\_\_)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter

Checked by: 676

**CUSTODY SEAL:**

Cooler ☐ Present and Intact ☐ Present but Not Intact ☒ Not Present ☐ N/A

Checked by: 676

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☒ Not Present ☐ N/A

Checked by: 1053

**SAMPLE CONDITION:**

	Yes	No	N/A
Chain-of-Custody (COC) document(s) received with samples .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Sampling date <input type="checkbox"/> Sampling time <input type="checkbox"/> Matrix <input type="checkbox"/> Number of containers			
<input type="checkbox"/> No analysis requested <input type="checkbox"/> Not relinquished <input type="checkbox"/> No relinquished date <input type="checkbox"/> No relinquished time			
Sampler's name indicated on COC .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC .....	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and in good condition .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers for analyses requested .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sufficient volume/mass for analyses requested .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Samples received within holding time .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aqueous samples for certain analyses received within 15-minute holding time			
<input type="checkbox"/> pH <input type="checkbox"/> Residual Chlorine <input type="checkbox"/> Dissolved Sulfide <input type="checkbox"/> Dissolved Oxygen .....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Proper preservation chemical(s) noted on COC and/or sample container .....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unpreserved aqueous sample(s) received for certain analyses			
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Total Metals <input type="checkbox"/> Dissolved Metals			
Container(s) for certain analysis free of headspace .....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Volatile Organics <input type="checkbox"/> Dissolved Gases (RSK-175) <input type="checkbox"/> Dissolved Oxygen (SM 4500)			
<input type="checkbox"/> Carbon Dioxide (SM 4500) <input type="checkbox"/> Ferrous Iron (SM 3500) <input type="checkbox"/> Hydrogen Sulfide (Hach)			
Tedlar™ bag(s) free of condensation .....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**CONTAINER TYPE:**

(Trip Blank Lot Number: \_\_\_\_\_)

**Aqueous:** ☐ VOA ☐ VOA<sub>h</sub> ☐ VOA<sub>na2</sub> ☐ 100PJ ☐ 100PJ<sub>na2</sub> ☐ 125AGB ☐ 125AGB<sub>h</sub> ☐ 125AGB<sub>p</sub> ☐ 125PB  
☐ 125PB<sub>znna</sub> ☐ 250AGB ☐ 250CGB ☐ 250CGB<sub>s</sub> ☐ 250PB ☐ 250PB<sub>n</sub> ☐ 500AGB ☐ 500AGJ ☐ 500AGJ<sub>s</sub>  
☐ 500PB ☐ 1AGB ☐ 1AGB<sub>na2</sub> ☒ 1AGB<sub>s</sub> ☐ 1PB ☐ 1PB<sub>na</sub> ☐ \_\_\_\_\_ ☐ \_\_\_\_\_ ☐ \_\_\_\_\_

**Solid:** ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☐ Sleeve (\_\_\_\_\_) ☐ EnCores® (\_\_\_\_\_) ☐ TerraCores® (\_\_\_\_\_) ☐ \_\_\_\_\_

**Air:** ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ \_\_\_\_\_ **Other Matrix** (\_\_\_\_\_) ☐ \_\_\_\_\_ ☐ \_\_\_\_\_

Container: A = Amber, B = Bottle, C = Clear, E = Envelope, G = Glass, J = Jar, P = Plastic, and Z = Ziploc/Resealable Bag

Preservative: b = buffered, f = filtered, h = HCl, n = HNO<sub>3</sub>, na = NaOH, na<sub>2</sub> = Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>, p = H<sub>3</sub>PO<sub>4</sub>, Labeled/Checked by: 1053

s = H<sub>2</sub>SO<sub>4</sub>, u = ultra-pure, znna = Zn (CH<sub>3</sub>CO<sub>2</sub>)<sub>2</sub> + NaOH

Reviewed by: 689

# SAMPLE ANOMALY REPORT

DATE: 08 / 9 / 2016

## SAMPLES, CONTAINERS, AND LABELS:

- ☐ Sample(s) NOT RECEIVED but listed on COC
- ☐ Sample(s) received but NOT LISTED on COC
- ☐ Holding time expired (list client or ECI sample ID and analysis)
- ☐ Insufficient sample amount for requested analysis (list analysis)
- ☐ Improper container(s) used (list analysis)
- ☐ Improper preservative used (list analysis)
- ☐ No preservative noted on COC or label (list analysis and notify lab)
- ☐ Sample container(s) not labeled
- ☐ Client sample label(s) illegible (list container type and analysis)
- ☒ Client sample label(s) do not match COC (comment)
  - ☐ Project information
  - ☐ Client sample ID
  - ☐ Sampling date and/or time
  - ☐ Number of container(s)
  - ☒ Requested analysis
- ☐ Sample container(s) compromised (comment)
  - ☐ Broken
  - ☐ Water present in sample container
- ☐ Air sample container(s) compromised (comment)
  - ☐ Flat
  - ☐ Very low in volume
  - ☐ Leaking (not transferred; duplicate bag submitted)
  - ☐ Leaking (transferred into ECI Tedlar™ bags\*)
  - ☐ Leaking (transferred into client's Tedlar™ bags\*)

\* Transferred at client's request.

## MISCELLANEOUS: (Describe)

## HEADSPACE:

(Containers with bubble > 6 mm or ¼ inch for volatile organic or dissolved gas analysis)

ECI Sample ID	ECI Container ID	Total Number**	ECI Sample ID	ECI Container ID	Total Number**

## Comments

(-1) Received 1-Liter amber glass bottle w/H<sub>2</sub>SO<sub>4</sub> for all analyses - (Metals container not received).

## Comments

(Containers with bubble for other analysis)

ECI Sample ID	ECI Container ID	Total Number**	Requested Analysis

Comments: \_\_\_\_\_

Reported by: 1053  
Reviewed by: 659

\*\* Record the total number of containers (i.e., vials or bottles) for the affected sample.

**Nicole Scott**

---

**From:** Diana Lang <diana.lang@memorialpp.com>  
**Sent:** Monday, August 22, 2016 8:46 AM  
**To:** Nicole Scott  
**Cc:** Mary Lawry; STEVE LAWRY  
**Subject:** RE: Weekly NPDES Produced Water Monitoring / CEL 16-08-0626 / Invoice 1358839

Hi Nicole –

Would it be possible to change the oil and grease analyses on the remaining 3 samples to be RUSH. If we could get data by tomorrow, it would be appreciated.

Thank you.

Diana Lang  
 Direct: (562) 628-1529  
 Cell: (562) 522-5095




---

**From:** Diana Lang  
**Sent:** Friday, August 19, 2016 9:58 AM  
**To:** 'Nicole Scott' <NicoleScott@eurofinsUS.com>  
**Cc:** STEVE LAWRY <lawrylts@sbcglobal.net>; Mary Lawry <m.lawrylts@yahoo.com>  
**Subject:** RE: Weekly NPDES Produced Water Monitoring / CEL 16-08-0626 / Invoice 1358839

Yes. Thank you.

Diana Lang  
 Direct: (562) 628-1529  
 Cell: (562) 522-5095




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**From:** Nicole Scott [<mailto:NicoleScott@eurofinsUS.com>]  
**Sent:** Friday, August 19, 2016 9:57 AM  
**To:** Diana Lang <diana.lang@memorialpp.com>  
**Cc:** STEVE LAWRY <lawrylts@sbcglobal.net>; Mary Lawry <m.lawrylts@yahoo.com>  
**Subject:** RE: Weekly NPDES Produced Water Monitoring / CEL 16-08-0626 / Invoice 1358839

No problem, Diana. Is standard TAT okay?

Thanks,  
 Nicole Scott  
 Project Manager

Eurofins Calscience, Inc.